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A retrospective study on the role of seasonal variation in the incidence of acute bronchitis and its homoeopathic management

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Abstract
Acute bronchitis is a clinical condition characterized by cough triggered by acute inflammation of the mucosal lining of the large airways. Every year, about 5% of adults suffer from acute bronchitis globally and 90% within them seek medical advice or treatment. 30 cases diagnosed with acute bronchitis (residents of Kanniyakumari District) were taken from the OPD of Sarada Krishna Homoeopathic Medical College and Hospital during the time period 01/08/2022 to 10/10/2022. Analysis of cases was based on the acute totality and medicines were selected accordingly. The relationship between incidence of Acute bronchitis with the seasonal variation of Kanniyakumari District, age, sex, occupation of the patient, causative factors, factors modifying the condition were studied. Frequently prescribed effective homoeopathic medicines for the condition along with its potency was studied which may manage and prevent the recurrence of Acute Bronchitis.

Keywords: Acute bronchitis, homoeopathy, seasons, similimum, weather

Introduction
Acute bronchitis is the acute reversible inflammation of the mucosal lining of the large airways characterized by cough with or without expectoration, malaise, chest pain, low grade fever, breathing difficulty and body pain that may or may not come along with upper respiratory tract infections. It comes under ICD-10-CM J20 classification and represents one of the most common illnesses seen in outpatient and many patients who take antibiotics on regular basis [1]. The most common cause of acute bronchitis is infections, especially viral and bacterial infections whereas the risk factors of acute bronchitis includes exposure to allergens, exposure to smoke, low resistance power, occupational exposures, crowding, history of asthma recurrent gastric reflux etc about which further studies are necessary. Viral infections especially infections caused by influenza virus, parainfluenza virus, respiratory syncitial virus, adenovirus and rhinovirus are the prime cause for more than 90% cases. Bacteria that causes acute bronchitis are Streptococcus pneumonia and Staphylococcus aureus whereas Mycoplasma pneumoniae and Chlamydia pneumoniae also proclaim considerable contributions in effecting acute bronchitis globally [2]. Globally, 25% of patients have a cough that persists for over a month and can sometimes extend upto 7 months [3]. Acute bronchitis consist of two stages. The first stage is called the dry inflammatory phase which lasts for 3-4 days and the second stage is the exudative stage that lasts for 6-8 days [4]. The clinical features include cough with or without expectoration (mostly mucoid or purulent) with low grade fever, malaise, chest pain, breathing difficulty and body pain and the investigation depicts wheezing on auscultation and increased WBC count on blood routine examination. Confirmatory investigations under consideration is spirometry and sputum culture [5]. Acute bronchitis is a self-limiting disease and treatment is typically symptomatic but many a time allopathic medications fail to effect complete cure to the patient as a whole. The recurrence rate of acute bronchitis is very high and this is the platform where homoeopathic treatment can be trusted completely.

Materials and Methods
A sample of 30 cases of Acute were taken from the OPD of Sarada Krishna Homoeopathic Medical college and Hospital (people residing in Kanniyakumari District) within the time period ranging from 01/08/2022 to 10/10/2022.

Cases recorded in standardized pre-structured case format of Sarada Krishna Homoeopathic medical college were analysed based on acute totality and the most appropriate homoeopathic medicines were selected.

Inclusion criteria
Patients having symptomatology of Acute Bronchitis, age group between 0 and 70 years, both sexes and all type of socioeconomic status

Exclusion criteria
Patients above the age group of 70 years and patients with other chronic respiratory diseases

Data collection
30 cases were collected based on the standardized pre structured SKHMC case format.

Results and Discussion
30 cases of Acute Bronchitis (residents of Kanniyakumari District), presenting their complaints within the time period of 01/08/2022 to 10/10/2022 were selected for this study. This time period depicts commencement of rainy season after hot dry days. According to weather forecast of Kanniyakumari District during August 2022, a maximum temperature of 310C during the first weeks dropped to 250C consecutively by the commencement of rain with 84% humidity and 18.3mph wind speed. This dropped to 23.50C, humidity being 82% with wind speed 16.2 mph and average precipitation being 183 mm during the month of September 2022. By the first week of October 2022, this have further progressed to 290C with humidity 80% wind speed 12.2 mph but the average precipitation raised to 280 mm. This suggests that the weather showed variation from hot to damp cold which was again reverted back to hot days with occasional heavy rainfall [6].
In this study, it was observed that 0 to 10 age group (children) were mostly affected (Fig. 1). Females are most commonly affected than the males (Fig. 2). Students were more affected when compared to any other professionals within the respective 30 cases (Fig. 3). Most common causative factor that effected the occurrence of Acute Bronchitis was drenching in rain (Fig. 4). Apart from this, change of weather (from hot to cold), dust exposure, exposure to cold (especially at night) also have recognizable significance. The complaints were more worse at night when compared to other aggravating factors (Fig. 5.1) and was more better from drinking warm water (Fig. 5.2) when compared to other ameliorating factors as reported by the patients. Arsenicum album was the most frequently prescribed homoeopathic medicine (Fig 6) and 200th potency is the most preferred potency than the other potencies especially 30th, 1M, 0/3 and 0/6 (Fig. 7).

Age
Out of the 30 patients, 14 patients were from 0-10 age group, 4 patients each from 11-20 and 21-30 age groups, 3 patients each from 31-40 and 41-50 age groups and 2 patients were from 51-60 age group (Fig 1).

Gender
There were 19 female and 11 male patients out of the 30 cases taken for this study (Fig 2).

Occupation
Out of the 30 patients, 14 were students, 7 were housewife's, 1 each from teacher, vendor, engineer and driver categories and 5 were denoted as other as they possessed no occupation. Within this 5 patients 3 were toddlers, 1 was a baby and 1 was an unemployed man (Fig 3).

Causative factors
With reference to the 30 cases, 11 patients reported drenching in rain as the causative factor, 5 patients reported change of weather from hot to cold (damp cold) as the causative factor, 3 each reported taking cold drinks, exposure to cold at night and dust exposure as the causative factor, 2 patients reported cold water and 1 each reported suppressed sweat, taking cold fruit and exposure to cold at early morning as the causative factors (Fig 4).

Associated modalities
Out of the 30 patients, many reported several factors which worsened (aggravating factor) and improvised (ameliorating factor) their complaints. They are as follows:

Aggravating factors
18 patients experienced their complaints worsened by night, 6 patients in morning, 5 patients in exposure to cold, 4 each in early morning and evening, 3 each from fanning, sweating and waking from sleep, 2 each from damp cold weather and lying down and 1 each from anxiety, talking, eating food, midnight, inspiration, during coughing and swallowing food (Fig 5.1). Ameliorating factors:
11 patients felt there complaints better by drinking warm drinks and 1 each after expectoration and while sitting erect (Fig 5.2).

Medicines
Out of the 30 cases, Arsenicum album was prescribed for 7 cases (23%), Rhustoxicodendron for 5 cases (17%), Antimonium tartaricum for 3 cases (10%), Drosera, Hepar sulph, Spongia tosta and Bryonia alba for 2 cases each (7%) and Silicea terra, Calcarea carbonica, Gelsemium sempervens, Kalium carbonicum, Pulsatilla nigricans and Belladonna for 1 case each (3%), (Fig 6).

Potency
Out of the cases, 200th potency was prescribed for 19 cases (63%), 30th potency was prescribed for 4 cases (13%), 1M for 3 cases (10%), 0/3 for 1 case (3%) and 0/6 for 3 cases (10%), (Fig 7).
Lijun Bai *et al.* study reveals that the risk estimates are pronounced during the rainy and cold season, however, no significant association was found during the warm season. This study also depicts that there is association between seasonal variation and the incidence of acute bronchitis [7].
JG Ayres study on the seasonal pattern of acute bronchitis in general practice in the United Kingdom 1976-83 shows that the disease were most common among the extremes of life [8]. In this study it was found and reconfirmed that the disease is more common among 0 to 10 age group.
Khudair ME *et al.* study reveals that when considering age as a risk factor, males were more prone to attain acute bronchitis in the province of Hillah city, Iraq [9]. This study clearly shows that females were more prone to attain the disease when compared with that of the males.

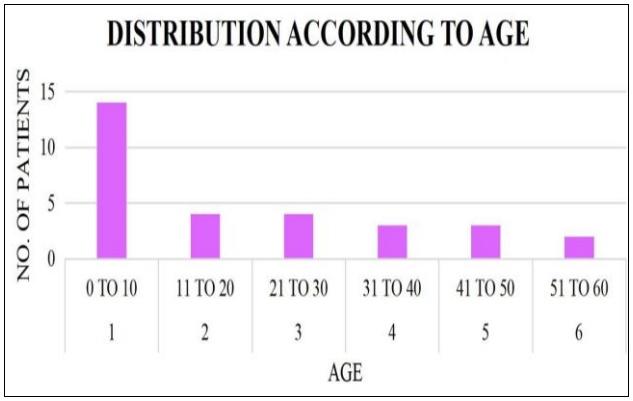

Fig 1: Distribution according to age group

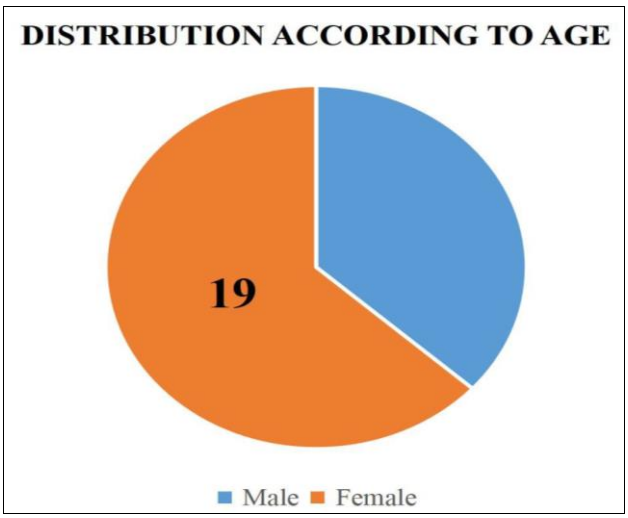

Fig 2: Chart showing the frequency of Male and Female affected by Acute Bronchitis

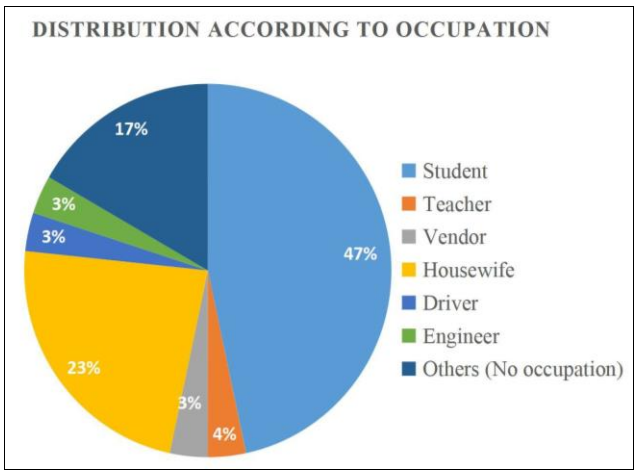

Fig 3: Common occupation of the patients who are affected with acute bronchitis

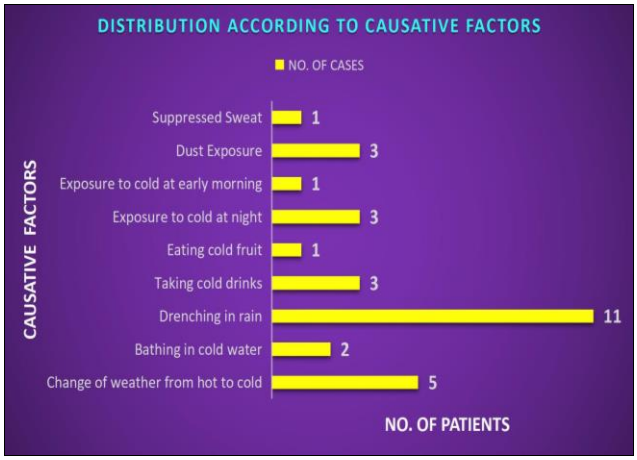

Fig 4: Most commonly observed causative factors of acute bronchitis

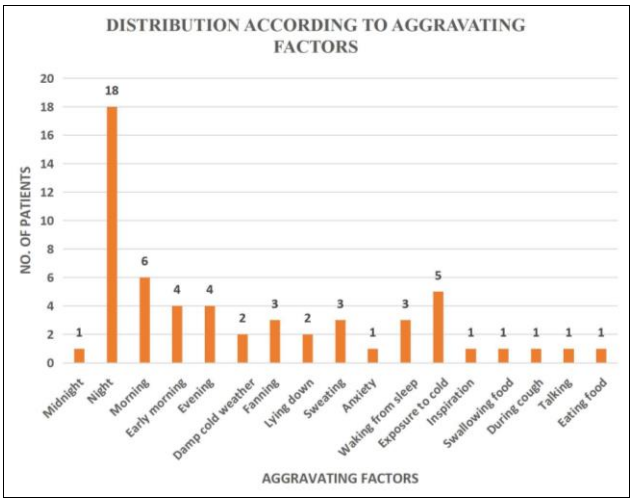

Fig 5: Common aggravating factors associated with acute bronchitis

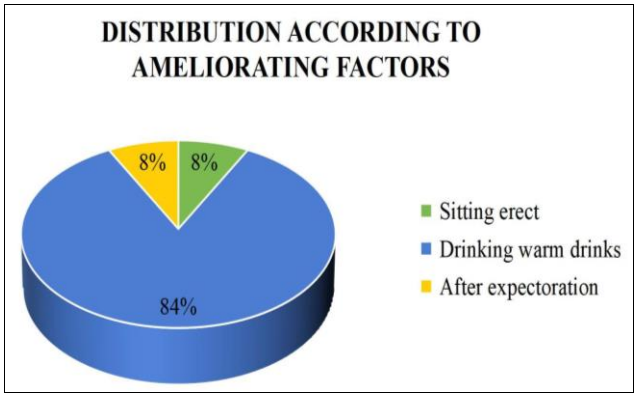

Fig 6: Common ameliorating factors associated with acute bronchitis

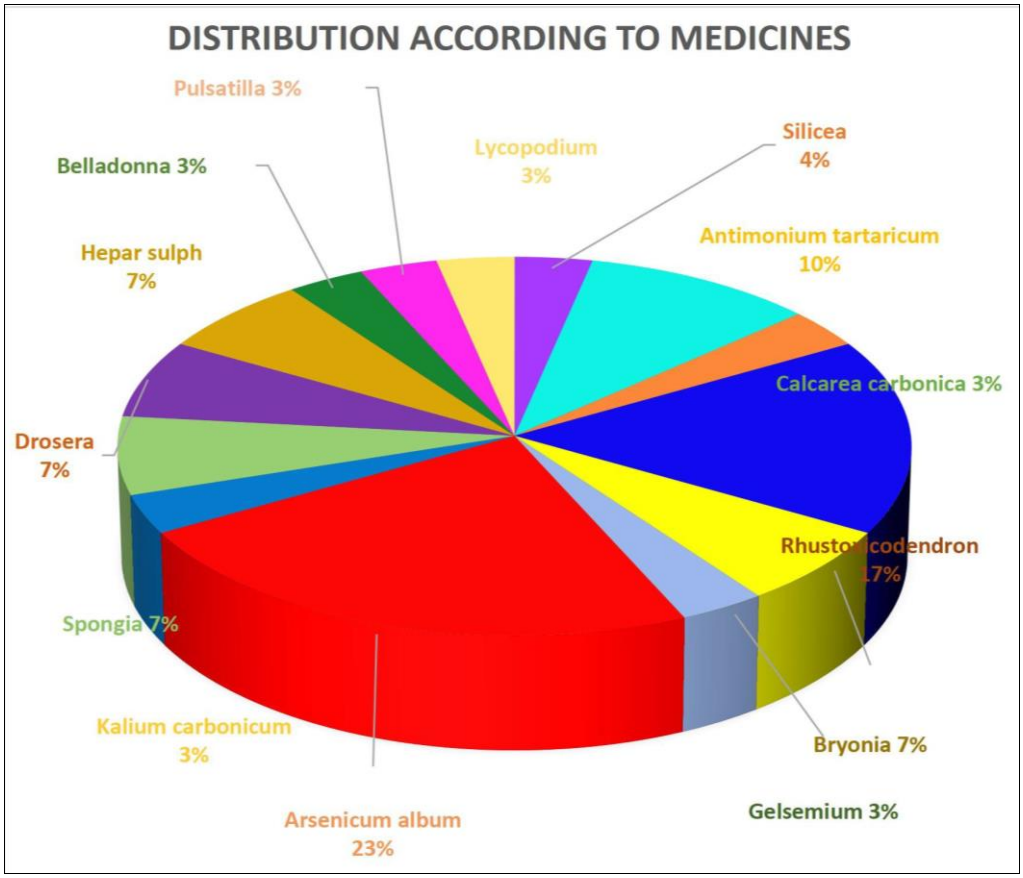

Fig 7: Medicines prescribed to the patients affected with Acute Bronchitis

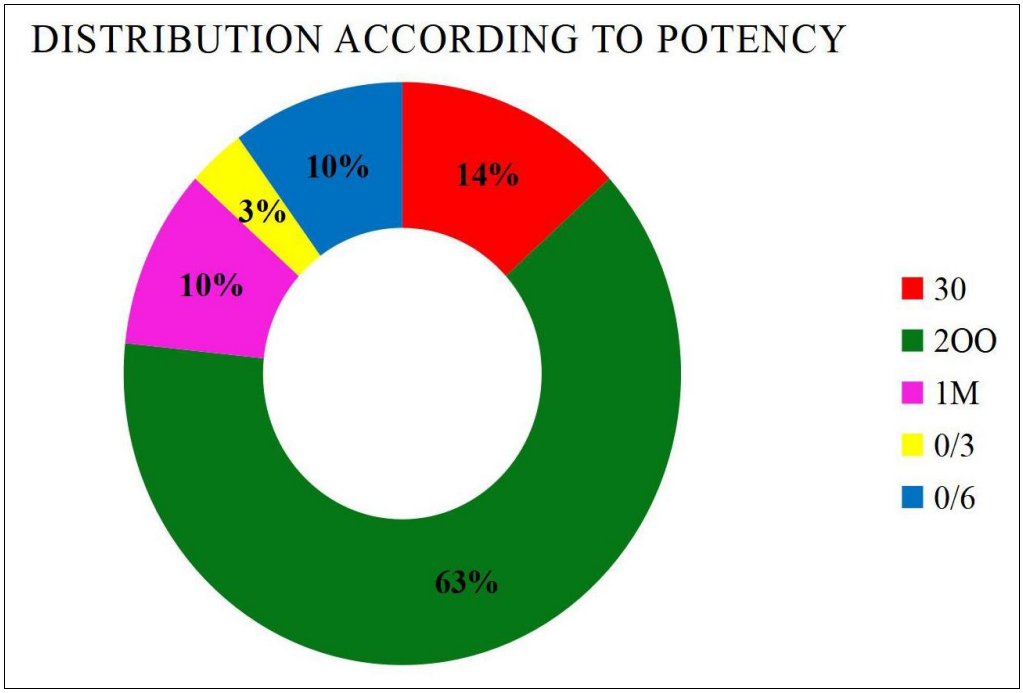

Fig 8: Potency prescribed to Acute Bronchitis cases

Conclusion

30 cases diagnosed with Acute Bronchitis were taken from the OPD of Sarada Krishna Homoeopathic Medical College and Hospital during the time period 01/08/2022 to 10/10/2022. Analysis of cases was based on the acute totality and medicines were selected accordingly. Most of the cases selected for the study show significant relationship with the seasonal variation occurred under the province of Kanniyakumari District. Females are more vulnerable to attain the disease and children age ranging are more prone to get affected when compared with adults. Most frequently prescribed medicines and potency is Arsenicum album and 200th potency respectively. There are many other medicines that can also be thought of during the treatment of Acute Bronchitis in patients during similar climatic condition. This explains the superiority and scope of homoeopathy in

managing cases of Acute Bronchitis and preventing its recurrence in the near future.

Conflict of Interest
Not available

Financial Support
Not available

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